Instructor: Dr. Eamonn Tweedy
Office: Hermann Brown 444
Email: eamonn@rice.edu

Lecture Times: MWF 9:00-9:50AM
Classroom: Sewall Hall (SEW) Room 305
Office Hours: M 2-3PM, W 5-6PM, F 4-5PM

Recitations: TA sessions are **Monday 6-8PM and Thursday 7-9PM** in **Hermann Brown 427** and **Wednesday 7-9PM** in **Mech Lab 254**. Your TAs for this class are Jorge Acosta, Jacob Fillman, Zheng Gan, Nikita Kozin, and Katherine Poulsen.

Class Webpage: `http://math.rice.edu/~ept2/Teaching/F2011/101`

Textbook: This course will cover chapters 1 through 6 of *Calculus Early Transcendentals 6E* by James Stewart. The campus bookstore has a custom-made book for Rice (ISBN: 9781111699314), which includes a WebAssign account. You may also use other versions of the 6th edition of this textbook (including Stewart's Single Variable Calculus: Early Transcendentals or Stewart's Calculus: Early Transcendentals), but you'll have to purchase a WebAssign account separately in this case.

Homework: There will be two components to homework in this course: webAssign problems and written problems from the text.

1. WebAssign homework will be **due on each class day at 9:00AM** (starting Friday, August 26) and will be assigned through the WebAssign website. Each student is responsible for obtaining a WebAssign account and becoming familiar with the WebAssign system as soon as possible. These online problems are quite similar to the textbook exercises.

   The WebAssign.net key for this course is: **rice 8608 9554**

   Due to the nature of these online assignments, it is tempting to not write very much down. It is **strongly recommended** that you maintain a notebook in which you write down complete problems and solutions to the online homework problems as you work through them. Such a notebook will be very helpful when you are studying for exams!

2. Each week, I will also assign 3 problems from the textbook, which must be **handed in on Friday during the first five minutes of lecture (i.e. by 9:05AM)**. The first such written assignment will be due on **Friday, September 2**. These will be problems of a nature which cannot be handles by online systems (e.g. graphing problems).

Homework is not pledged, and collaboration is allowed. However, make sure that you understand the solution to a problem before typing it into WebAssign. Also, your solutions to the textbook problem sets must be your own.

Late homework assignments will not be accepted for ANY reason! Instead, your three lowest WebAssign scores and your lowest paper assignment will be dropped.

Exams: There will be two midterm tests during the semester, which will both occur outside of class time. They will take place on **Thursday, September 29 at 8:00AM** and on **Tuesday, November 8 at 8:00AM**.

The final exam will be *7-10PM on Wednesday, December 7, 2011*. It is the policy of the Mathematics Department that no final may be given early to accommodate student travel plans. If you have made travel plans which conflict with the final exam date, then it is your responsibility to either reschedule your travel plans or take a zero on the final.

Books, notes, and calculators **will not be allowed on exams**. Make-up exams will only be allowed in the case of a documented medical emergency (and you must contact me as soon as possible regarding such a situation). If the exam dates conflict with a holiday you observe, please let me know **during the first week of classes**.

Grades: Your grade will be computed via the following scheme:

20% Homework + 20% Midterm 1 + 20% Midterm 2 + 40% Final Exam

Expectations: I expect that you attend every lecture and arrive on time. It is also your responsibility to stay informed of any announcements, adjustments to the syllabus, or policy changes made during scheduled classes (and not all announcements will necessarily be posted on the website).

In a math lecture, what's most important is that you look for the big picture and stay attuned to the lecturer's advice about what's important and what isn't. I don't necessarily expect you to follow every step of the lecture, but I do expect you to study on your own at home to fill in the gaps. Nonetheless, attending lectures is a crucial component to understanding the material, while skipping them puts you at a real disadvantage.

I encourage you to make use of your classmates, the TA recitation sessions, and office hours whenever you are struggling with the material. Furthermore, you should seek help as questions arise, rather than waiting until an exam is looming or until you have lots of questions.

Honor Code: You should be familiar with the Rice University Honor Code (the Handbook can be found at `http://honor.rice.edu/honor-system-handbook/`). **Both midterm exams and the final exam will be pledged.**

Disability Support: Any student with a documented disability seeking academic adjustments or accommodations is requested to speak with me **during the first two weeks of class.** All such discussions will remain as confidential as possible. Students with disabilities will also need to contact Disability Support Services in the Allen Center.

Disclaimer: I reserve the right to make changes to this syllabus and to course policies during the semester. Such changes will be announced in lecture when they are made.

Tentative Lecture Schedule:

Week 1
08/22: Section 1.1-1.2: Basics of functions
08/24: Section 1.3: New functions from old functions
08/26: Section 1.5: Exponential functions

Week 2
08/29: Section 1.6: Inverse functions and logarithms
08/31: Section 2.1: Tangents and velocity problems
09/02: Section 2.2: The limit of a function

Week 3
09/05: No class, Labor Day
09/07: Section 2.3: Limit laws
09/09: Section 2.4: The precise definition of a limit (epsilons and deltas)

Week 4
09/12: Section 2.5: Continuity
09/14: Section 2.6: Limits at infinity; horizontal asymptotes
09/16: Section 2.7: Derivatives

Week 5
09/19: Section 2.8: Derivatives as functions
09/21: Section 3.1: Derivatives of polynomials and exponential functions
09/23: Section 3.2: Product and quotient rules

Week 6
09/26: Section 3.3: Derivatives of trigonometric functions
09/28: Review
Thursday, 09/29, 8AM: Midterm Exam 1
09/30: Section 3.4: The chain rule

Week 7
10/03: Section 3.5: Implicit differentiation
10/05: Section 3.6: Derivatives of logarithmic functions
10/07: Section 3.7: Rates of change

Week 8
10/10: No class, Midterm Recess

10/12: Section 3.8: Exponential growth and decay
10/14: Section 3.9: Related rates

Week 9
10/17: Section 3.10-3.11: Linear approximations and differentials; Hyperbolic functions
10/19: Section 4.1: Maximum and minimum values
10/21: Section 4.2: The Mean Value Theorem

Week 10
10/24: Section 4.3: Derivatives and graphs
10/26: Section 4.4. L'Hospital's Rule
10/28: Section 4.5-4.6: Curve sketching

Week 11
10/31: Section 4.7-4.8: Optimization; Newton's Method
11/02: Section 4.9: Antiderivatives
11/04: Section 5.1: Areas and distances

Week 12
11/07: Review
Tuesday, 11/08, 8AM: Midterm Exam 2
11/09: Section 5.2: Definite integration
11/11: Section 5.3: The Fundamental Theorem of Calculus

Week 13
11/14: Section 5.4: Indefinite integrals
11/16: Section 5.5: The substitution rule
11/18: Section 6.1: Areas between curves

Week 14
11/21: Section 6.2: Volumes
11/23: Section 6.3: Cylindrical shells
11/25: No class, Thanksgiving

Week 15
11/28: Section 6.4: Work
11/30: Section 6.5: Average value of a function
12/02: Review, last day of classes